

EXHIBIT 1

Technology

How Apple uses its App Store to copy the best ideas

Developers have come to accept that, without warning, Apple can make their work obsolete by announcing a new app or feature that essentially copies their ideas. Some apps have simply buckled under the pressure.

By Reed Albergotti

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Clue, a popular app women use to track their periods, has risen to near the top of Apple's Health and Fitness category.

It could be downhill from here.

Apple plans this month to incorporate some of Clue's core functionality such as fertility and period prediction into its own Health app that comes pre-installed in every iPhone and is free — unlike Clue, which is free to download but earns money by selling subscriptions and services within its app. Apple's past incorporation of functionality included in other third-party apps has often led to their demise.

Clue's new threat shows how Apple plays a dual role in the app economy: provider of access to independent apps and giant competitor to them.

“It’s a love-hate relationship, of course. You don’t want to annoy the milkman when you only have one milkman,” said Ida Tin, Clue’s CEO, who coined the term “fem tech.” Though Tin believes her Berlin-based company can coexist with Apple, she said it highlights the “skewed power distribution” in the tech industry.

ADVERTISING

Developers have come to accept that, without warning, Apple can make their work obsolete by announcing a new app or feature that uses or incorporates their ideas. Some apps have simply buckled under the pressure, in some cases shutting down. They generally don't sue Apple because of the difficulty and expense in fighting the tech giant—and the consequences they might face from being dependent on the platform.

The imbalance of power between Apple and the apps on its platform could turn into a rare chink in the company's armor as regulators and lawmakers put the dominance of big technology companies under an antitrust microscope.

When Apple made a flashlight part of its operating system in 2013, it rendered instantly redundant myriad apps that offered that functionality. Everything from the iPhone's included "Measure" app to its built-in animated emoji were originally apps in the App Store.

In this year's September software updates, in addition to the period tracker, Apple has added the ability to use an iPad as a second computer screen, a feature initially offered by a popular app called Duet Display. Its iPhone and iPad keyboards will include the ability to type by swiping, mimicking apps such as SwiftKey.

The misfortune of having an idea copied by Apple even has an industry term. "Getting Sherlocked" harks back to the time Apple's desktop search tool called "Sherlock" [borrowed many of the features](#) of a third-party companion tool called "Watson," which no longer exists.

Imitation is common in the tech industry. “We have always been shameless about stealing great ideas,” Apple co-founder Steve Jobs once said.

But what makes Apple’s practice different is its access to a trove of data that nobody else has. The App Store, where the original apps were offered and competed for downloads, collects a vast amount of information on which kinds of apps are successful—even monitoring how much time users spend in them. That data is shared widely among leaders at the tech giant and could be used to make strategic decisions on product development, said Phillip Shoemaker, who served as Apple’s director of App Store review from 2009 to 2016.

“I think Apple gets a lot of inspiration from apps that are on the App Store,” he said.

“Healthy competition, in every category, constantly drives everyone who makes apps, including Apple, to improve,” Apple spokesman Fred Sainz said in a statement. “We wouldn’t have it any other way, because that’s how our users get the best experiences possible.” He added that the App Store has more than 2 million apps, showing “that a great idea can come from anywhere and touch people’s lives everywhere.”

The titans of technology aren’t just powerful because they’re big or profitable. They are also the omniscient rulers of their platforms, able to use information on smaller competitors to their own advantage and expand their reach through greater functionality.

When companies sell their products on Amazon, for instance, the online retail giant can see before anyone else if a new category is successful.

Similarly, Apple benefits greatly from the inventiveness of millions of app developers, first when their apps spur customers to keep using iPhones — and again if Apple takes their most successful ideas and copies them. And when apps collect payments, Apple takes a 15 to 30 percent cut.

Technology platforms like Apple and Amazon can use the information to “identify potential nascent threats and then acquire that threat and then find a way to disadvantage it,” said Maurice Stucke, a professor at the University of Tennessee College of Law and author of several books on antitrust policy.

Once Apple duplicates the idea behind an app, the in-house version often benefits from functionality that outside developers are prohibited from using. Apple Music, for instance, is the only streaming service that is entitled to take full advantage of Siri. Apple says it plans to change that policy in its new operating system, iOS 13. Apple’s walkie-talkie app, which launched after independent apps had proved the appeal of the concept, is the only one that can operate on Apple Watch.

For developers of mobile apps, it’s hard to avoid Apple. Apple is responsible for 71 percent of all U.S. revenue generated by mobile apps, according to Sensor Tower, a market research firm. To ignore Apple (the only alternative is Google-owned Android) is tantamount to failure.

But when it comes to copying apps, Apple’s biggest advantage over the years has been its ability to offer many of them at no additional charge, the cost included in the price of the phone itself. That is even more critical to Apple now as sales of the iPhone, its most lucrative product, have slowed. To prove its usefulness to consumers, Apple is offering them more and more services. Apple itself makes more than 40 apps, a number that has steadily increased over the years as the company has pushed into new areas. Many come pre-installed on the iPhone.

In a climate of [unprecedented scrutiny](#) of the power of big technology companies, some wonder whether Apple's creation of apps imitating ones that already exist on its platform, aided by market data it collects from them, could be [harming competition](#) and hurting innovation.

Sen. [Elizabeth Warren](#) (D-Mass.) zeroed in on the App Store earlier this year. "Either they run the platform or they play in the store. They don't get to do both at the same time," [she told The Verge](#).

The [Justice Department](#) is reviewing Apple and other tech giants for possible antitrust violations. Leading another investigation is Rep. David N. Cicilline (D-R.I.), chairman of the House Judiciary subcommittee on antitrust, commercial and administrative law. Music app Spotify filed a complaint in the European Union earlier this year, claiming unfair competition in the App Store by giving its Apple Music app an advantage.

Copying technology has gotten tech giants in trouble before. Two decades ago, the Justice Department and 20 states sued Microsoft, whose operating system Windows was dominant at the time, after Microsoft copied the Netscape Web browser and made its own version, Internet Explorer, the default option in Windows. Microsoft settled the case.

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Kyle Andeer, Apple's vice president of corporate law, speaking at a House Judiciary subcommittee hearing in July, said only a small number of apps in the App Store are made by Apple. "In every category where our software competes, we face multiple strong competitors," he said.

That dynamic is at the center of another brewing antitrust storm around Amazon, which is being investigated in Europe for allegedly using data gathered from products sold in its store to figure out which ones to copy and sell under private-label brands like AmazonBasics.

"We will cooperate fully with the European Commission and continue working hard to support businesses of all sizes and help them grow," Amazon said in a statement.

At the same July congressional hearing, lawmakers questioned Amazon on whether it can use that data as a road map to duplicate the products under more than 80 private-label brands it uses to sell everything from batteries to polo shirts, eating into the profits of the sellers that helped make the Amazon platform successful. Nate Sutton, Amazon's associate general counsel for competition, denied that the company uses its data for that purpose. (Amazon CEO and founder Jeff Bezos owns The Washington Post.)

At first, the only software allowed to be installed on an iPhone was Apple's. A year after the phone launched in 2007, Apple opened up to allow third parties to build new programs for the phone. One of the first to develop apps was DoApp, a small company of software developers in Minnesota.

DoApp manipulated the screen of the iPhone — and later the camera flash — so that it could be used as a handy light. Called MyLite, the app was free and supported by ads. It was wildly popular for its usefulness and earned the honor of being among the very first batch of iPhone apps. While it quickly generated hundreds of copycats, DoApp had a head start and continued to earn between \$10,000 and \$30,000 per month, income that allowed the company to experiment and innovate on other ideas like news apps and games.

In 2013, by which time myLite had more than 10 million people using it every month, DoApp sent a software engineer to Apple's Worldwide Developers Conference in Silicon Valley, as it did every year. At the annual event, attended by thousands of coders responsible for the apps that run on iPhones, iPads and other Apple

products, Apple unveils new software to a cheering audience. On stage that year, Craig Federighi, Apple's senior vice president of software engineering, showed a new feature that users could access by swiping up from the bottom of the phone, without even unlocking it.

"Turn on airplane mode, adjust your brightness, play a song, even get a flashlight," he said. "If you wake up in the middle of the night and you need to find something, your flashlight is right there." In the audience, former vice president Al Gore, a board member, nodded in approval.

"I'm like, there goes our model," Wade Beavers, DoApp's CEO, said he thought as he watched [the announcement](#). After that, income from MyLite "fizzled down to essentially zero" over the course of several months, Beavers said. It was also bad news for all the other flashlight apps.

DoApp continued to develop apps before selling the company in 2016. Beavers is now an angel investor and venture capital adviser in technology companies, but he said he wouldn't invest in any company trying to create mobile apps. "Ten years later, Apple is doing the same thing," he said.

Decisions on which new apps to develop are strategic and made at the top rungs of the company, according to people familiar with how Apple operates.

App developers are required to submit their ideas to Apple for approval before they're allowed into the store, and Shoemaker ran the team that decided who gets in and who is rejected. Shoemaker pointed out that while he worked for Apple, his department was careful not to share information about apps submitted for review. Shoemaker didn't want to create the perception that Apple could take ideas from developers before their apps are uploaded to the store. Top Apple executives could still peek at apps under review, Shoemaker said.

But once a third-party app was accepted into the App Store, those barriers were removed. Apple got data on how those apps were used and for how long — the most valuable metric, Shoemaker said. The data, aggregated for hundreds of millions of users, he said, was "critical" to determining what kinds of apps were worth getting inspiration from and when. He said that top Apple executives would bring up the metric at meetings, marveling at how much time people spent in the most popular apps such as Facebook.

Shoemaker said he got regular emails from angry app developers, irked that the company had rejected their app or, in some cases, killed their app off by copying them. He said he would forward them to Apple's legal team.

Apple has been able to set rules about what apps can do that give an advantage to its own versions, developers say.

Several companies have offered walkie-talkie apps for the iPhone for several years, demonstrating that people would use their phones in different ways. One of them, Voxer, wanted to integrate its functionality with the Apple Watch, said founder Tom Katis, but Apple would not allow any other walkie-talkie apps on the Apple

Watch. Then last year, Apple launched its own built-in walkie-talkie function on the Apple Watch, mimicking some of the features of the existing apps.

Katis said he believes other companies could create better versions, were they allowed to try. Apple was recently forced to temporarily shut down the walkie-talkie app because of a bug that caused a security vulnerability. “It would be super cool to have an actual walkie-talkie that works well on the Apple Watch,” Katis said, adding that he doesn’t harbor any ill will toward Apple.

Apple’s home grown “Shortcuts” app, which allows iPhone users to create customized automations, enjoys the same kind of advantages over outside competitors. Shortcuts was in part a result of Apple’s acquisition of Workflow, another automation tool. Earlier apps like IFTTT (If This, Then That) don’t have the same level of access to Apple’s operating system and can’t work as smoothly. Linden Tibbets, IFTTT’s chief executive, said Apple is doing what all dominant companies that own big platforms eventually do: copying the “most successful applications” and subsuming them into the operating system, he said.

This June, Natalia Zarawska, an iOS developer for Clue, traveled from Berlin to Silicon Valley for the Worldwide Developers Conference. She said when Apple announced its new period tracking features in the Health app, she was at first surprised and then a little angry. Other developers started offering their condolences.

Zarawska said Apple software developers, who were conducting classes, told her they loved Clue and offered assistance and advice for developing new app features. But they didn’t answer one of Zarawska’s most burning questions: Would Clue be able to access the new women’s health data available in the revamped Apple app? Or, as Zarawska worried, would Apple keep that data for itself, giving its own app the advantage?

“There’s always a risk that a company larger than you copies you,” said Rahul Dewan, the founder of [Duet Display](#), an app that turns the iPad into a second Mac or Windows display and costs \$9.99. Apple announced in June that it was introducing that function itself as part of an upcoming software update — a copying that Dewan, a former Apple employee, said he had planned for by adding additional features. He had seen Apple do this to other apps. “The only constant in technology is change,” he said.

Alaric Cole, a prolific developer of mobile apps, has seen so many of his ideas incorporated into Apple’s own software that he penned a blog post, titled “Apple literally stole my thunder,” in 2013 when Apple incorporated some of his ideas into its weather app.

But Apple’s copying didn’t stop. Cole’s “Penboard” app, which allowed people to scribble notes directly into iMessages, was copied a year later, when Apple announced it was launching that feature directly in iMessage, effectively killing Penboard.

“It’s a shame to me because I liked the App Store,” Cole said. “But yeah, I do think they have been abusing their place.”

Reed Albergotti

Reed Albergotti is The Washington Post's consumer electronics reporter, taking readers inside powerful and secretive companies such as Apple and shedding light on the murky and global industry responsible for building the myriad devices that touch every aspect of our lives. He spent 12 years at the Wall Street Journal and four at the Information. Follow 

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